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AUTHOR Robinson, Sheryl L.
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ABSTRACT

This study investigated the level of superstitious belief among 175 persons in three categories: persons undergoing inpatient psychiatric treatment, churchgoers, and college students. A 50-item inventory consisting of positive and negative common superstitions, including a 5-item invalidity subscale, was administered. Using a 2 (male, female) x 3 (patient, churchgoer, student) factorial design, analyses revealed significant differences among the three groups for total, positive, and negative superstition, with psychiatric inpatients having the highest, and church members having the lowest levels on all three. The findings support Ellis' theory that irrational beliefs impair realistic thinking and consequential functioning in everyday life. An explanation for the finding that psychiatric inpatients held the highest level of beliefs involves schedule-induced behavior, in which response is typically observed following reinforcement. The endorsement of superstitious beliefs by inpatients may also be seen as a defense mechanism. The results are also consistent with Schumaker's idea that nonreligious persons compensate for lack of identity with traditional religion by increased nonreligious paranormal beliefs. (Six pages of references, a table of superstitious beliefs administered to subjects, one data table, and three figures are included.) (Author/NB)

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Differing Levels of Superstitious Beliefs Among Three Groups: Psychiatric Inpatients, Churchgoers, and Students

Sheryl L. Robinson

University of Missouri - Kansas City

Running head: DIFFERING SUPERSTITIOUS BELIEFS

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Abstract

The present study investigated the level of superstitious belief among 175 persons in three categories: persons undergoing inpatient psychiatric treatment, members of the RLDS church, and college students. A 50 item inventory consisting of positive and negative common superstitions, including a 5-item invalidity subscale, was administered. Using a 2 x 3 factorial design (gender x group), analyses revealed significant differences between the three groups for total, positive, and negative superstition, with psychiatric inpatients having the highest, and church members having the lowest levels on all three. Results are discussed in terms of schedule-induced behavior, belief as a defense mechanism, irrationality of beliefs and compensation for lack of religion by increased beliefs.

Superstitious Beliefs Among Three Groups; Psychiatric Inpatients, Churchgoers, and Students

Even in today's technologically advanced society, the presence of superstition is undeniable. Many people carry charms, pick up pennies for luck, and perform a variety of rituals as a part of daily life. When confronted with the question of whether they are superstitious, most people will deny the idea. Upon further questioning many jokingly admit to a few such beliefs.

According to Skinner (1953), superstition is the result of an erroneous association between one's action and an external event. The event is falsely believed to be response contingent, and its appetitive or aversive value to the individual determines the likelihood of recurrent behavior. Skinner observed superstitious behaviors among pigeons which obtained reinforcement for key pecking on a fixed-interval schedule. During the 15-second interval between reinforcers, the pigeons developed a ritualistic pattern of behavior, which differed among the birds. Some scratched the floor, while others walked in circles or moved their heads back and forth. The pigeons exhibited the behaviors repeatedly, increasing in frequency with each reinforcement. It seems that these behaviors were associated with reinforcement, causing high levels of performance.

Perhaps the majority of common superstitions are

perpetuated as a part of custom. Such beliefs are transmitted within a culture by family or cultural traditions. Maple (1971) writes, "The origins of our superstitions are lost in time and those beliefs which have survived are often relics of ancient cultures and long vanished ways of life" (p. 9). Innumerable superstitions exist as a part of an unwritten code in nearly every society. Often, their truth and validity are accepted without question. One example of a widespread, fairly harmless superstition is that of touching wood when recounting a fortunate happening. Underlying and promoting this action is the anxiety that the lucky break will not last. The irrational element, touching wood, clearly plays no role in prolonging the fortunate occurences. As Planer (1988) discusses, simply realizing that this ritual is nothing but an attempt at magic is typically not sufficient to overcome the impulse to protect oneself.

Putney and Putney (1966) pointed to the difficulty in understanding behavior based on largely unquestioned cultural assumptions. Schumaker (1987) stated, "the universality of various paranormal beliefs suggests that they are very important to human beings. In fact, cognitive defenses may serve to guard against objective analyses."

Superstitious beliefs may be observed into another category, consisting of personal, everyday beliefs and rituals

This type includes behaviors such as wearing one's favorite, lucky cologne the day of an important test or meeting, or carrying out morning ritual activities in one particular order each day. This type of superstition may be reinforced by a sense of control, predictability and consistency in the individual's world.

Research studies have correlated belief in superstitions with a number of factors. Females have been found to hold more superstitious beliefs than males by several authors (Blachowski, 1937; Blum, 1976; Gregory, 1975; Scheidt, 1973). However, other researchers who examined data for this gender difference did not find it (Nixon, 1925; Tupper, 1983, Robinson, 1988). Gregory (1975) hypothesized that the virtual disappearance of a gender difference in superstitious beliefs in recent studies may be due to cultural changes. Women have increasingly joined forces with men in work, sports, and education.

Blum (1976) found that level of superstitious beliefs was approximately equivalent for rural and large city dwellers. Although some significant local differences were found in the influence of some specific beliefs, the strength of general belief was roughly equivalent.

An association has been discovered between externality on Rotter's (1966) scale and belief in supernatural forces (Scheidt, 1973) and superstitions (Peterson, 1978). In Rotter's formulation, one believes in "internal control" if he

or she perceives reinforcement contingent upon action, and exhibits belief in "external control" if reinforcement is perceived as due to fate, luck or events external to himself. Scheidt proposed that the overall I-E difference may have been mediated by a tendency by externals to respond to hearsay testimony regarding the validity of supernatural phenomena.

Belief in superstitions was found by Zapf (1945) to be inversely related to level of intelligence, socioeconomic status, and educational background, especially the number of science courses taken. She also reported an inverse relationship to number of books and magazines in the home, college education of parents, and summers spent away from home by the students. A positive correlation was reported between superstition and suggestibility (Zapf, 1945).

Age, which is clearly involved in the above factors, was negatively correlated with superstitious beliefs (Zapf, 1945; Garrett, 1937), although Blum (1976) did not find any such relationship.

Some would categorize certain religious beliefs as superstitious, especially those of a mystical quality. Planer (1988) investigated the relationship between superstition and religion, pointing out that religious persons are likely to have a powerful sense of fear of sanctions by supernatural forces. Lawrence (1987) reported that religious clients are a particular challenge in Rational Emotive Therapy, in that many

people use their religion to support irrational or dysfunctional ideation. Cognitive errors common to the religious client include overgeneralization, selective abstraction, and dichotomous thinking. These errors typically lead to distortions of reality.

The question of whether superstitious beliefs are useful and adaptive for the individual is yet to be clearly or decisively answered. Some observers have speculated that "undiluted perception of reality, however one chooses to define it, is too frightening and potentially threatening and that we are destined to live what Ferenczi (1955) called 'vital lies,' namely the illusions and self-deceptions that serve to pacify" (Zern, 1989, p. 452).

Others view superstitions, to the extent that they may be considered irrational beliefs, as barriers to realistic, rational thinking and adjustment (Ellis & Harper, 1973).

The present study investigated the level of superstitious beliefs among persons falling into three categories: college students, churchgoers, and psychiatric inpatients. Superstition was determined by belief in a number of common positive and negative superstitions.

Method

The subjects consisted of three groups: students, churchgoers, and psychiatric inpatients. The student group was 50 undergraduate and graduate students enrolled in psychology

courses at the University of Missouri-Kansas City, participating voluntarily. The churchgoing subjects were 74 volunteers from the RLDS church. The inpatient group consisted of 50 inpatients in two psychiatric care centers. The subjects were asked to participate in a "study of common human beliefs."

The superstition inventory consisted of 45 items which the subjects rated either true (or mostly true) or false (or mostly false). The list of superstitions is included in Table 1. Each of the beliefs on the scale may be classified as positive or negative, in light of the hypothetical outcome of the belief. Examples of negative superstitions are: "A chain letter must not be broken" and "I avoid walking under ladders." Positive superstitious beliefs include: "I like to carry a rabbit's foot" and "I like to carry a four leaf clover." The scale includes 22 positive items and 23 negative items. Five items to measure validity or invalidity of responses are included in the list.

Results

A 2 x 3 factorial design, gender by type of person, was used for analysis of data. Analysis of variance for total, positive, and negative superstition and for invalidity scores was computed. A significant difference for type of person was found, $F(2, 163) = 23.68$, $p < .001$. Scores on the superstition scale were further analyzed by dividing the total score into positive and negative belief scores. Analysis of

positive belief scores revealed a significant difference, $F(2, 163) = 16.55$, $p < .001$. Analysis of the negative superstition scores also produced highly significant results, $F(2, 163) = 22.63$, $p < .001$. Additionally, a significant difference was found for the invalidity scores, $F(2, 163) = 2.96$, $p < .05$. (See Table 2 for ANOVA values). No significant gender differences were found.

The scores on the superstitious beliefs inventory have a possible range of 0 to 45. Mean score was calculated for total superstition, for each of the three groups (see Figure 1). As expected, psychiatric inpatients had higher total superstition scores than either of the other groups. Secondly, both negative and positive superstitious beliefs among inpatients were higher than among students and churchgoers (see Figures 2 and 3).

Discussion

These findings support Ellis' (1973) theory that irrational beliefs impair realistic thinking and consequential functioning in everyday life. Ellis' Rational-Emotive Therapy emphasizes the restructuring of thought. Beliefs or self-statements not fully grounded in reason and reality are systematically discarded in treatment and replaced by items that are.

An explanation for the finding that psychiatric inpatients hold the highest level of beliefs involves schedule-induced behavior, in which response is typically observed following

reinforcement. For example, an object or response which is present during reinforcement on a fixed interval schedule erroneously becomes associated with reinforcement, and is repeated excessively, even to the point of becoming maladaptive for the organism, such as in polydipsia (the excessive drinking of water observed among pigeons and other animals) (Schwartz, 1984). Thus, persons who are particularly receptive to, or hold a high level of superstitious beliefs may also display a large number of maladaptive behaviors. These behaviors are likely to affect functioning to the point that treatment is necessary.

Thirdly, the endorsement of superstitious beliefs by inpatients may be seen as a defense mechanism. Because persons in an inpatient treatment setting are likely to display a number of maladaptive behaviors, they may superstitiously attribute the negative effects of their behavior to an external cause in order to remove responsibility from themselves. For example, a man injured in an auto accident blames the incident on bad luck due to having broken a mirror, rather than on careless driving. In this way, he is not required to conceptualize himself as a poor driver; rather as someone who has broken a mirror.

Finally, these results are consistent with Schumaker's (1987) idea that nonreligious persons compensate for lack of identity with traditional religion by increased nonreligious paranormal beliefs. For those involved in traditional religion, their beliefs are comprehensive; encompassing nearly all areas

of life. Those with such a belief system have their own set of charms and rituals, be they the sacraments, rosary beads, or the church ceremony itself. They have no need for a secular faith, such as the common superstitions included in this study. It may well be those without religious beliefs that feel compelled either consciously or unconsciously to believe in something outside of reality.

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Table 1

Superstitious Beliefs

1. I own a piece of clothing that I wear on special or important days.
2. When telling a lie a person should cross their fingers.
3. Salt should not be spilled.
4. I like to carry a rabbit's foot.
5. I avoid the number thirteen whenever possible.
6. Red hair is a sign of unfaithfulness in a person.
7. A new bride should be carried over the threshold.
8. A chain letter must not be broken.
9. I have a lucky color.
10. A perfect theatre rehearsal predicts a bad performance.
11. I wear a birthstone.
12. Lilacs should not be given to someone who is ill.
13. Confetti or rice should be thrown on a newly wed couple.
14. I avoid opening an umbrella indoors.
15. Something good can be found at the end of a rainbow.
16. Losing one's engagement ring means the marrige will not last.
17. I try to make sure I kiss someone under mistletoe at holiday time.
18. Peacock feathers should not be kept around.
19. I often toss coins into fountains or ponds.
20. When one's left ear tingles, someone is speaking badly of that person.
21. Seven is my favorite number.
22. Bad things seem to happen in threes.
23. I sometimes throw a pinch of salt over my shoulder.
24. A groom must not see the bride in her dress before the start of the wedding ceremony.
25. I like to carry a four-leaf clover.
26. A hat should not be left on the bed.
27. I pick up pennies only if I find them face-up.
28. I avoid walking under ladders.
29. An itching palm is a good sign.
30. I avoid stepping on cracks in the sidewalk.
31. A horse shoe hangs above my door.
32. A pregnant woman should not attend a funeral.
33. I frequently knock on wood.
34. I am careful to keep soap from slipping out of hand.
35. I like to make wishes on falling stars.
36. I avoid black cats.
37. On New Year's Eve, I try to get the last drink out of a bottle.
38. I try never to break mirrors.

Table 1, continued

39. I have sometimes broken a wishbone.
40. People should get out of bed on the same side they got in on.
41. I often cross my fingers.
42. I do not watch someone who is leaving go completely out of sight.
43. I am careful to blow out all the candles on a cake.
44. When walking together, two people should not separate around an object.
45. There is one day of the week when nothing good happens.

Table 2

Total, Positive, and Negative Superstition and Invalidity ANOVAs

Score	F
Total Superstition	23.7***
Positive Superstition	16.6***
Negative Superstition	22.6***
Invalidity	2.9

***p < ,001

Figure Caption

Figure 1. Mean total superstition score as a function of type of person.

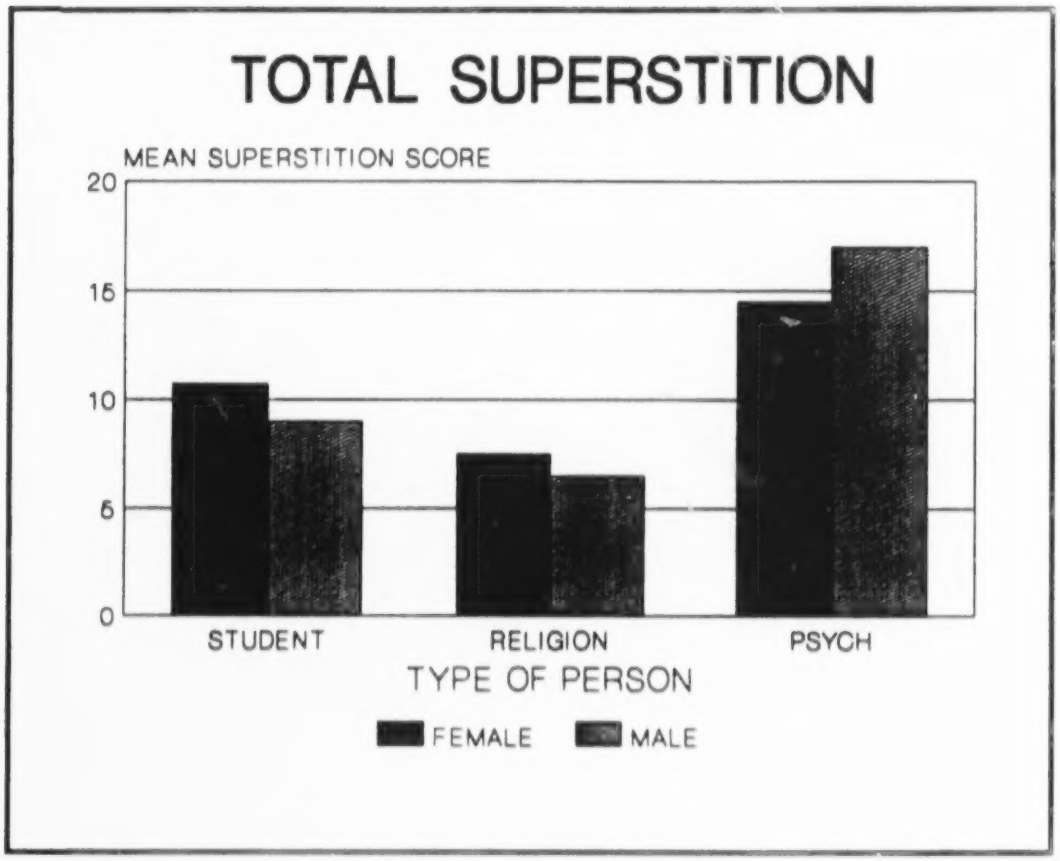

TOTAL SUPERSTITION
MEAN SUPERSTITION SCORE
20
15
10
5
0
STUDENT
RELIGION
PSYCH
TYPE OF PERSON
FEMALE
MALE

Figure Caption

Figure 1. Mean positive superstition score as a function of type of person.

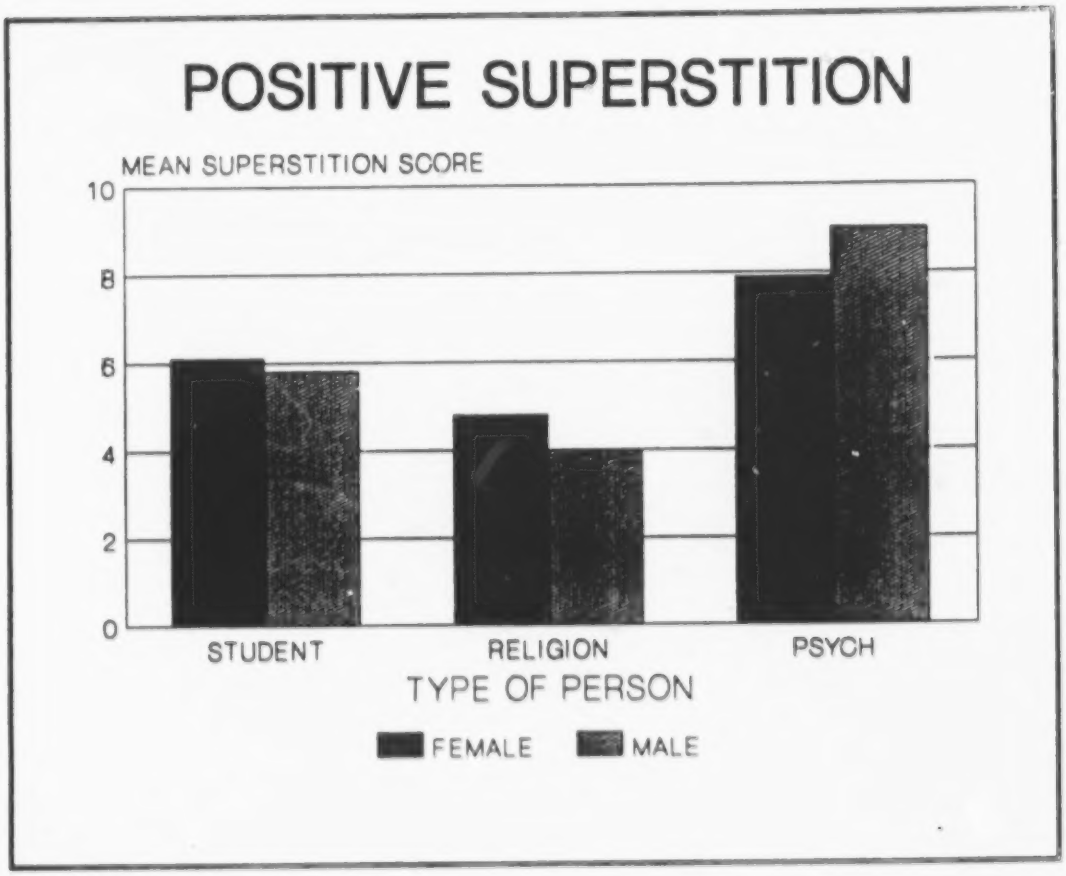
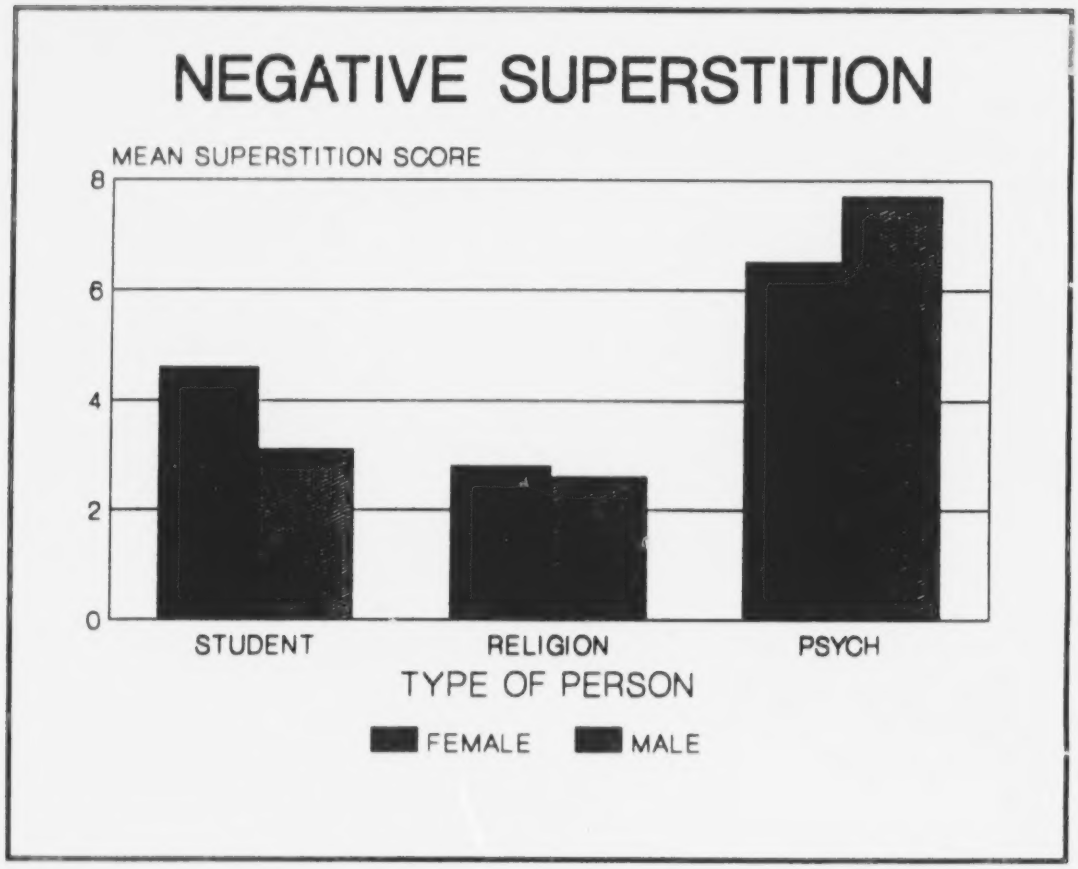

POSITIVE SUPERSTITION
MEAN SUPERSTITION SCORE
10
8
6
4
2
0
STUDENT
RELIGION
PSYCH
TYPE OF PERSON
FEMALE
MALE

Figure Caption

Figure 1. Mean negative superstition score as a function of type of person.


NEGATIVE SUPERSTITION
MEAN SUPERSTITION SCORE
8
6
4
2
0
STUDENT
RELIGION
PSYCH
TYPE OF PERSON
FEMALE
MALE